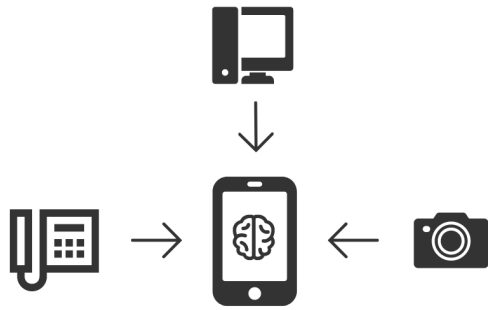


WHERE DID DRONES COME FROM?

Drones were born from smartphone technology and share many parts. Let's see how one piece of technology led to the invention of another!



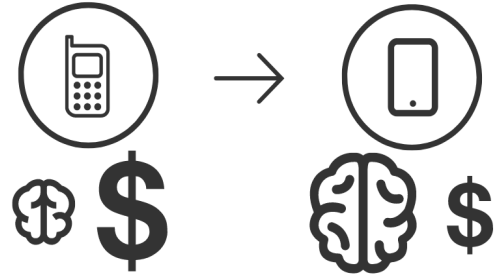
1



SMARTPHONES ARE BORN

Smartphones are an all-in-one telephone, computer and camera stuffed into one device. Smartphone technology allows all of these gadgets to fit in your pocket.

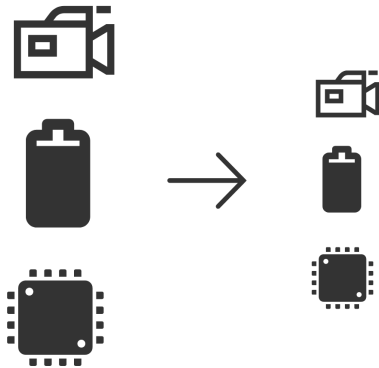
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SMARTPHONES GET BETTER

Smartphones are very powerful tools that we now use everyday. Their popularity allowed the technology to become less expensive and more powerful.

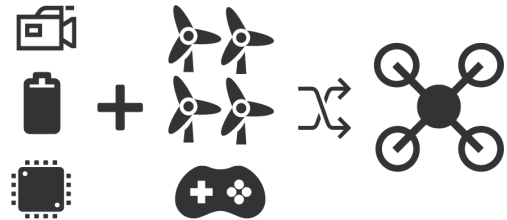
3



CAMERAS, BATTERIES & COMPUTER CHIPS GET SMALLER

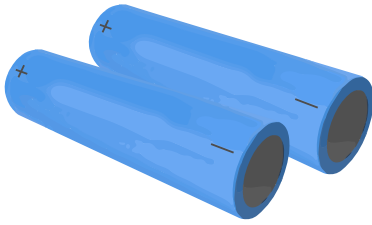
Smartphones gave rise to light-weight lithium-ion batteries, micro HD cameras and very powerful computer chips—all necessary ingredients for drones.

4



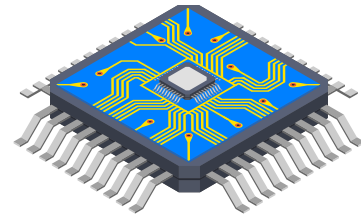
INVENT

Electric motors, propellers and radio controllers are old technology, but when combined with smartphone tech, you make something new—a quadcopter drone.



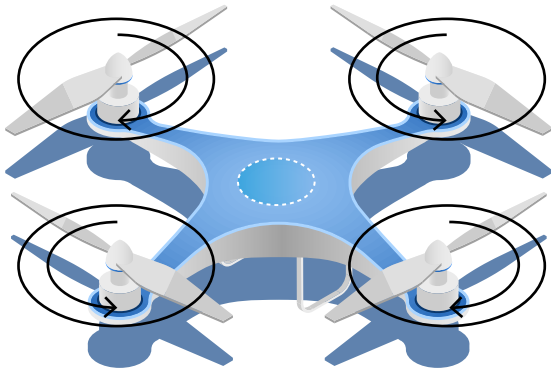
BATTERY

Lithium batteries provide power for both the motors and the flight controller. These batteries are the same kind used in smartphones and electric cars.



FLIGHT CONTROLLER

The flight controller is the drone's onboard computer—the brain. It uses gyroscopes and accelerometers to take measurements of where the drone is in space to achieve stable flight. Balancing on one leg works similarly: Your inner ear sends signals to your brain which makes tiny adjustments in your feet.



MOTORS & PROPELLERS

Every drone has two motors that spin clockwise and two that spin counter-clockwise. Further, none of them ever spin at the same speed. The flight controller is constantly speeding up or slowing down each motor in order to maintain stable flight. You can hear the drone do this as it changes direction.



RADIO CONTROL

You control your drone with a radio controller. Your radio controller sends messages to your drone through 2.4 gigahertz (GHz) radio waves. This is the same radio wave frequency and technology used to send data through Bluetooth and WiFi. The radio controller is the signal transmitter and the flight controller houses the signal receiver. By modulating radio transmission waves, a radio receiver can wirelessly recognize these modulations (changes) and decode them as data inputs to control your drone. This is how cell phones send and receive data, too.